

CLAIMS

What is claimed is:

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1. A method for reducing the partial pressure of undesired gases in a small vacuum vessel with a vacuum volume of about 1 liter or less, comprising:

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(a) providing a getter pump as an integral part of said small vacuum vessel, wherein said getter pump has sufficient sorption capacity to adsorb undesired gases;

(b) evacuating said small vacuum vessel;

(c) activating said getter pump; and

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(d) sealing said small vacuum vessel.

2. The method of claim 1, wherein said getter pump is an appendage getter pump.

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3. The method of claims 1 or 2, wherein said getter pump is activated by heating with an external heater.

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4. The method of claim 3, wherein the getter material in said getter pump is a zirconium alloy.

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5. A method for reducing the partial pressure of undesired gases in a small vacuum vessel with a vacuum volume of about 1 liter or less, comprising providing a getter pump as an integral part of said small vacuum vessel, wherein said getter pump has sufficient sorption capacity to adsorb undesired gases and thereby eliminates the need for a bakeout cycle.

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6. The method of claim 5, wherein said getter pump is an appendage getter pump.

7. The method of claims 5 or 6, wherein said getter pump is activated by heating with an external heater.

5           8. The method of claim 7, wherein the getter material in said getter pump is a zirconium alloy.

9. A method for reducing the partial pressure of undesired gases in a small vacuum vessel with a vacuum volume of about 1 liter or less, said small vacuum vessel having undergone an incomplete outgassing bakeout step, comprising providing a getter as an integral part of said small vacuum vessel, wherein said getter has sufficient sorption capacity to adsorb remaining undesired gasses.

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10. The method of claim 9, wherein said getter pump is an appendage getter pump.

20           11. The method of claims 9 or 10, wherein said getter pump is activated by heating with an external heater.

12. The method of claim 11, wherein the getter material in said getter pump is a zirconium alloy.

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13. A small vacuum vessel with a vacuum volume of about 1 liter or less, comprising a getter pump as an integral part of said small vacuum vessel, wherein said getter pump has sufficient sorption capacity to adsorb undesired gases without the necessity of an outgassing bakeout step.

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14. The small vacuum vessel of claim 13, wherein said getter pump is an appendage getter pump.

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15. The small vacuum vessel of claim 13 or 14, wherein the getter material in said getter pump is a zirconium alloy.

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